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BERKELEY NATIONAL LABORATORY

Environment, Health and Safety Division

Integrated Functional Appraisal of the Physical Biosciences Division

FY 2001

Final Report

July 23, 2001

Integrated Functional Appraisal Team Leader: Jack Salazar

1.0 Executive Summary

The Environment, Health and Safety Division (EH&S) conducted an Integrated Functional Appraisal of the Physical Biosciences Division (PBD) during June 2001. The Appraisal consisted of initial scope discussions, records review, and inspection of spaces to identify uncontrolled hazards. The inspection team was comprised of technical specialists from EH&S, the PBD Division Safety Coordinator, and others with safety responsibilities in PBD. A representative from the Department of Energy (DOE) Berkeley Site Office (BSO) was invited to participate as an observer, but was unable to be present at the inspections.

The results of the Appraisal are:

- Physical Biosciences has research operations centered on the UC Berkeley Campus at the DOE-controlled Melvin Calvin Laboratory (Building 3), as well as other operations at UC Berkeley and four buildings on the main Berkeley Lab Site. In an order to underscore the importance of safety throughout the Division, Physical Biosciences has appointed a scientist, Dr. Jeffrey Pelton, as the Safety Coordinator.
- Training compliance for PBD is very good. The rates for Job Hazard Questionnaire and required course completion are 94 and 92 percent respectively at the time of the appraisal. Furthermore, PBD ensures that division personnel assigned to work in UC Berkeley locations (not in Calvin Laboratory) are tracked and receive the appropriate LBNL training. This is a practice that clearly goes above and beyond the current LBNL UC Berkeley Memorandum of Understanding on Environment, Health and Safety Policies and Procedures.
- Waste compliance performance is outstanding as well. The Satellite Accumulation Area (SAA) rating for PBD for performance year 2001 (through May 2001) is 100%.
- Chemical safety and industrial hygiene issues are satisfactorily addressed on the whole, though some areas of improvement were noted during the appraisal. Minor chemical storage problems were identified. Most notably, however, good hygiene practices and personal protective equipment use when handling chemicals were found lacking in some areas of Calvin Laboratory. This is an area requiring renewed effort and emphasis for PBD.
- As is the case in many other divisions across the Laboratory, numerous compressed gas systems in PBD were observed without pressure relief devices. EH&S will assist PBD on this issue by providing additional guidance and consultation in the future to ensure systems are provided with the proper pressure relief.
- There were many computer workstations that were noted as deficient for ergonomic considerations. Though PBD has focused greatly on this issue in the recent years, additional emphasis, in consultation with EH&S needs to be placed on identifying ergonomic concerns and implementing workstation upgrades.
- Many appraisal findings relate to deficiencies in electrical safety and seismic considerations involving research and office equipment. These are other areas that should be receiving more attention in the Division's safety program.

Overall, safety within the Physical Biosciences Division has excellent management support, and the program performance bears out this fact in most areas; however, workstation ergonomics is in need of renewed, urgent attention. Numerous computer workstations were noted as not being properly configured for ergonomic considerations (as was the case with the findings from the 1998 IFA). This situation must be addressed to prevent injuries in the future. In addition, continuous improvement opportunities still exist in the areas of chemical hygiene practices, seismic safety involving research and office equipment, and electrical safety.

2.0 Introduction

The Integrated Functional Appraisal (IFA) is a key component of Lawrence Berkeley National Laboratory's Integrated Safety Management (ISM) system. It is part of Core Function #5 (Continuous Improvement) of the ISM concept, and forms one of the three tiers of the Laboratory's safety assessment program that evaluates the ongoing effectiveness of Divisions' Integrated Safety Management programs. LBNL's Environment, Health and Safety (ESH) Division has been conducting IFA's of all laboratory organizations since 1996, with each organization undergoing review every three years. The Physical Biosciences Division's last IFA was conducted during 1998.

3.0 Appraisal Process

3.1 Determination of Scope, Preparation for Site Visits

The IFA Team Leader (Jack Salazar) met with Dr. Jeffrey Pelton, the Physical Biosciences Division's Safety Coordinator, and Marie Alberti (a member of the PBD Safety Planning Team), in early May 2001 to determine the scope of the appraisal. As part of this determination the following documents were reviewed: previous Division Self-Assessment reports; Management of Environment, Safety and Health (MESH) report; previous IFA reports; SAA Compliance Inspection reports; Activity Hazard Document (AHD) database for operations in PBD, and the most recent entries in the Hazards, Equipment, Authorizations and Review (HEAR) system. From this review emerged a list of areas (building and room locations) that would be subject to site visits during the upcoming appraisal. These locations included all areas where formal work authorizations (e.g., AHDs, radiological work authorizations, facility safety documents, and environmental permits) were currently in effect, along with a representative sampling of office and other lab locations within the division. *Please note that spaces assigned to PBD but located on the UC Berkeley Campus (not in Calvin Laboratory) were not included in the appraisal.*

Spaces chosen for visit are listed in Appendix A. A total of 38 spaces were visited.

3.2 Compliance Records Review

Subsequent to the site visits, records of Job Hazard Questionnaire completion, required training completion, and waste compliance were reviewed (note: these items are also included in the Division's annual Self-Assessment).

3.3 Appraisal Team

The appraisal team members, and the hazard areas for which each was responsible, were:

Jack Salazar (EH&S) - Appraisal Team Leader, industrial hygiene
Ken Barat (EH&S) - laser safety, radiation safety, non-ionizing radiation safety
Tom Caronna (EH&S) - electrical safety
James Case (EH&S) - radiation safety
Dr. Maram Kassis (EH&S) - waste generator assistance
Matt Kotowski (EH&S) - general safety and accident prevention, pressure safety
Dr. Peter Lichty (EH&S) - Health Services
Dr. Jeffrey Pelton (PBD) - Physical Biosciences Safety Coordinator
Ken Rivera (DOE Berkeley Site Office) - Observer (unable to participate)

Members of the Physical Biosciences Division staff that participated in the Appraisal included Heinz Frei, Brendan Maguire, Hiromi Morimoto, Phil Williams, Chit Than, Marie Alberti, and Vangie Peterson.

3.4 Site Visits

The inspection team visited the sites during the last two weeks of June 2001. The site visits were organized into two (2) main groupings: (1) Building 6, 80, and 75 (Group A); and, (2) Building 3, Melvin Calvin Laboratory (Group B). Please refer to Appendix A for a complete breakdown of the two groups. A representative familiar with the activities occurring at each location was present at the time of the visit. Site representatives provided an introduction into the operations occurring in the space, and were available to answer questions on items with safety implication. The team leader of the appraisal maintained a master list of the findings as the site visits progressed.

4.0 Results

Findings and actions resulting from the site visits are presented in Appendices B-E. Items noted during the 1998 IFA inspections still requiring corrective action are highlighted in red (see Appendices B-E) for particular management attention. In general, given the ever-changing nature of the research in PBD, spaces were well maintained,

indicating the effectiveness of the Division's Self-Assessment inspections, as well as, the division's safety management program as a whole.

Findings where consistent issues were noted include:

Chemical Safety and Industrial Hygiene: PBD has generally good compliance with safe use of chemicals. However, in the course of the appraisal it was observed that individuals were lax about following good hygienic practices and personal protective equipment requirements when handling chemicals. Empty beverage and drinking water containers were evident on lab benches in Calvin Laboratory, and personnel were observed wearing shorts and working without protective eyewear during operations involving chemicals. This is an area requiring renewed effort and emphasis for PBD. There were also a few minor chemical storage issues noted (incompatible chemicals, storage outside of appropriate storage areas, secondary containment needed). Chemical storage guidelines can be found on the Web at: http://www.lbl.gov/ehs/chsp/html/storage.htm

Pressure Safety: PBD has numerous compressed gas cylinder uses as part of its operations. Many of these installations are in use without pressure relief devices, and should not be operated as such. While lack of pressure relief devices is not an uncommon situation throughout the Laboratory, PBD, in consultation with EH&S, needs to work to ensure proper pressure relief devices are in place. More information on pressure system requirements and pressure relief devices can be found in PUB-3000 Chapter 7, Pressure Safety and Cryogenics, available on-line at: http://www.lbl.gov/ehs/pub3000/ Detailed information on pressure relief devices is in Chapter 7.3.3.

Workstation Ergonomics: Many computer workstations associated with research laboratories in PBD are not of sufficiently sound ergonomic design. Given that the Division has experienced injuries stemming from the improper use of computers and/or inadequate workstation design, this issue needs to be given higher attention for correction.

Electrical Safety: Several pieces of lab equipment were not properly grounded, and many circuits in fume hoods and cold rooms were not indicated as being protected by GFCIs. Also, blocked electrical panels and shutoffs were evident in a few areas (clearance must be a minimum of 30" wide, 36" deep, and the higher of 78" from the floor or to the top of the panel).

Seismic Bracing: Numerous pieces of lab and office equipment (e.g., refrigerators and file cabinets) were noted as not being secured for seismic purposes. It is recognized that some of these instances could be traceable to renovation activities occurring within the division (Calvin Laboratory). In addition, a few installations were noted in which large portable cryogen dewars were not secured against seismic movement.

One area of concern, where EH&S and PBD need to come to resolution on the appropriate corrective action, was noted:

Laser Safety: There are currently four laser laboratories in Calvin Laboratory that are covered by AHDs. In the case of the installation in room 134 / 136 Calvin Laboratory, particular attention to the proper functioning of interlocks, warning lights, and access control by users is necessary due to the open beam paths which traverse aisle space in this area. The LBNL LSO will work with the users to address this situation, including a possible upgrade to the warning lights and a detailed beam path control analysis.

5.0 Conclusions

Overall, safety within the Physical Biosciences Division has excellent management support, and the program performance bears out this fact in most areas; however, workstation ergonomics is in need of renewed, urgent attention. Numerous computer workstations were noted as not being properly configured for ergonomic considerations (as was the case with the findings from the 1998 IFA). This situation must be addressed to prevent injuries in the future. In addition, continuous improvement opportunities still exist in the areas of chemical hygiene practices, seismic safety involving research and office equipment, and electrical safety.

Appendix A
Sites included in FY 2001 IFA Inspections

Building Number	Room Number	Survey Group[1]
006	2129	A
006	2129A	A
006	2129B	A
006	2137	A
006	2137A	A
006	2145	A
075	0102	A
075	0103	A
075	0106	A
075	0107	A
080	0202	A
080	0203	A
080	0203A	A
080	0203B	A
080	0203C	A
003	0115	B
003	0115A	B
003	0120	B
003	0134	B
003	0136	B
003	0140	B
003	0142	B
003	0143	B
003	0250	B
003	0308	B
003	0314	B
003	0314A	B
003	0316	B
003	0318	B
003	0322	B
003	0350	B
003	0400	B
003	0401	B
003	0402	B
003	0404	B
003	0405	B
003	0410	B
003	0410A	B

Appendix B
Findings: Physical Biosciences Division
Integrated Functional Appraisal 2001- Building 6

Building	Room	Finding	Action
6	2129	Razor blades were left unprotected on bench tops.	Place in sharps container or other appropriate receptacle.
		Large cryogen dewar was not restrained against movement.	Contact Facilities to install seismic restraints and ensure use.
		No pressure relief found on compressed gas systems.	PBD to determine the Maximum Allowable Working Pressure, and contact Berkeley Lab Facilities Department Regulator Shop, ext. 7669, to install a pressure relief device near the regulator.
		Stored liquid nitrogen lines above unistruts are not adequately secured.	Re-locate lines or secure to unistruts with tie-wraps or other suitable fastening device.
	2129A	Large cryogen dewar was not restrained against movement.	Contact Facilities to install seismic restraints and ensure use.
	2129A	Unlabelled chemical containers (e.g., squeeze bottles, glass bottles) present.	PBD to ensure all chemical containers, including transfer containers (e.g., plastic squeeze bottles) are marked with chemical or product hazard identification information.
	2137	Access to an emergency eyewash and safety shower restricted by debris on floor underneath unit.	PBD to maintain clear access to emergency eyewash and safety shower unit.
		Ergonomic set-ups for computer workstations not adequate.	Contact EH&S liaison (x6571) for ergonomic evaluation and possible workstation redesign.
	2137	Cylinder of hydrogen not equipped with steel tubing.	PBD to install steel tubing for delivery of flammable gases.
	2137	Unlabelled chemical containers (e.g., squeeze bottles, glass bottles) present.	Ensure all chemical containers, including transfer containers (e.g., plastic squeeze bottles) are marked with chemical or product hazard identification information.
	2137	Three (3) metal book shelves next to 2137A not seismically secured.	Contact Facilities Work Request Center (x6274) to install proper restraints.
		No pressure relief found on compressed gas systems.	PBD to determine the Maximum Allowable Working Pressure, and contact Berkeley Lab Facilities Department Regulator Shop, ext. 7669, to install a pressure relief device near the regulator.
	2137A	Ground Fault Circuit Interrupters (GFCIs) not present on cold room circuits (metal floor).	PBD to contact Facilities to install GFCIs.
	2145	Office furniture (3 tall cabinets and one file cabinet) not seismically secured.	Contact Facilities Work Request Center (x6274) to install proper restraints.

Appendix C
Findings: Physical Biosciences Division
Integrated Functional Appraisal 2001
Building 75

Building	Room	Finding	Action
75	102	Apparent permanent installation of extension cords with multiple plug device above bench against South wall.	PBD to substitute fixed wiring for the extension cords, as well as installation of proper number of outlets.
		Computer workstation in corner adjacent to door needs further reconfiguration. Repeat item	Consider relocation of workstation to area with more space. Consult with EH&S liaison (x6571) for workstation enhancements.
	102	Cord running from wall clock appears to have been spliced compromising insulation.	PBD to replace clock unit.
	103	Bubbler unit near door in 103 needs to be seismically secured.	Contact Facilities Work Request Center (x6274) to install proper restraints.
	103	Gas cylinders housed outside of 103 are not covered to provide protection from the elements.	*Recommendation:* PBD to investigate covering gas cylinders with canopy for additional weather protection.
	106	Computer workstation (Mac) for part-time EH&S Professional not adequate. Repeat item	Contact EH&S liaison (x6571) for ergonomic evaluation and possible workstation redesign.
	107	Chemicals (solids) stored on shelves without seismic restraints.	PBD to contact Facilities to install shelf restraints where containers with solid chemicals are located.
	107	Chemical containers in flammable liquid storage cabinets not placed in secondary containment.	PBD to provide and use plastic tubs inside flammable storage cabinets to contain any free flowing liquids.

Appendix D
Findings: Physical Biosciences Division
Integrated Functional Appraisal 2001
Building 80

Building	Room	Finding	Action
80	202	The incubator and medical freezer are not seismically secured.	Contact Facilities Work Request Center (x6274) to install proper restraints.
	203	Corrosive cabinet placed across door is not seismically secured.	While two exits from space are maintained even with cabinet obstructing door, this unit must be secured. Contact Facilities Work Request Center (x6274) to install proper restraints.
	203	A rusting container of cacodylic acid was found under in a cabinet under a fume hood.	PBD to contact EH&S Waste Management to remove and properly dispose of this item.
	203	Ergonomic set-ups for computer workstations not adequate. Repeat item	Contact EH&S liaison (x6571) for ergonomic evaluation and possible workstation redesign.
	203	Two (2) ultra centrifuge units have not been checked for de-rating.	PBD to review operating records to de-rate rotors.
	203	Access to an emergency eyewash and safety shower restricted by debris on floor underneath unit.	PBD to maintain clear access to emergency eyewash and safety shower unit.
	203C	Ground Fault Circuit Interrupters (GFCIs) not present on cold room circuits (metal floor).	PBD to contact Facilities to install GFCIs.

Appendix E
Findings: Physical Biosciences Division
Integrated Functional Appraisal 2001
Building 3 (Calvin Laboratory)

Building	Room	Finding	Action
3	115	Ground Fault Circuit Interrupters (GFCIs) not present on cold room circuits (metal floor).	PBD to contact Facilities to install GFCIs.
	115	No pressure relief noted on He cylinder.	PBD to determine the Maximum Allowable Working Pressure, and contact Berkeley Lab Facilities Department Regulator Shop, ext. 7669, to install a pressure relief device near the regulator.
		Metal bookshelf located adjacent to entrance to 115B is unsecured.	Items not secured can restrict access / egress if they fall over. Contact Facilities Work Request Center (x6274) to install proper restraints.
	115B	Compressed gas cylinder was found with no pressure relief.	PBD to determine the Maximum Allowable Working Pressure, and contact Berkeley Lab Facilities Department Regulator Shop, ext. 7669, to install a pressure relief device near the regulator.
	115 (Outside)	Manual dry ice grinder point of operation is not guarded.	PBD to replace manual unit with a modern unit that has adequate guarding.
	120	The laser dye pump had no secondary containment.	PBD to install suitable secondary containment (e.g., catch pan or plastic tray).
	120	Ergonomic set-ups for two (2) computer workstations are not adequate. Repeat item	Contact EH&S liaison (x6571) for ergonomic evaluation and possible workstation redesign.
	120	Ground Fault Circuit Interrupters (GFCIs) are not evident on hoods equipped with sinks.	PBD to submit a Work Request to make arrangements to upgrade these circuits.
	120	Wooden storage box for gas cylinders in hood obstructs air flow.	Re-locate box to a suitable location outside of hood to a dedicated location such as a gas cabinet.
	120	Laser table not electrically grounded.	PBD to submit a Work Request to install the proper grounding.
	120	Transformer needs to be electrically bonded to table top.	PBD to submit a Work Request to execute.
	134	Ergonomic set-up for computer workstation is not adequate. Repeat item	Contact EH&S liaison (x6571) for ergonomic evaluation and possible workstation redesign.
	134	Chemical containers in flammable liquid storage cabinets not placed in secondary containment.	PBD to provide and use plastic tubs inside flammable storage cabinets to contain any free flowing liquids.
	134	Secondary containment for laser dye not sufficient size to contain possible releases.	PBD to replace pan with a larger secondary container.

Building	Room	Finding	Action
3	134	Electrical cord cap on electrical feed from Quanta Ray unit to power supply needs to be replaced.	PBD to submit a Work Request to execute.
	134	Calcium gluconate gel has exceeded expiration date.	PBD to contact LBNL Health Services (x6266) to obtain a new supply of the gel.
	134	Ground Fault Circuit Interrupters (GFCIs) are not evident on hoods equipped with sinks.	PBD to make arrangements to upgrade these circuits.
	136	The exposed pipe and electrical connections in the center of the room present a trip hazard.	PBD to make arrangements to shield these connections from foot traffic.
	136	No pressure relief was found on oxygen cylinder that was in use. Repeat item	PBD to determine the Maximum Allowable Working Pressure, and contact Berkeley Lab Facilities Department Regulator Shop, ext. 7669, to install a pressure relief device near the regulator.
	136	Excessive storage of chemicals and cylinders in hood restricts air flow.	Storage must be reduced to a minimum in fume hood. Chemicals not in use should be removed to proper locations, such as dedicated storage cabinets or gas cabinets.
	136	Ground Fault Circuit Interrupters (GFCIs) are not evident on hoods equipped with sinks.	PBD to make arrangements to upgrade these circuits.
	136	Potentially lead-containing paint on wall surfaces is peeling and being spread throughout the room.	EH&S Industrial Hygiene will sample to determine lead content of paint, and take appropriate abatement actions based on results.
	140	Access to an electrical sub panel was blocked.	PBD to maintain clear access to electrical panels.
	140	Ground Fault Circuit Interrupters (GFCIs) not found on plugs near sink.	PBD to make arrangements to upgrade these circuits.
	142	Potentially asbestos-containing floor tiles are cracked and not protected from further damage.	EH&S Industrial Hygiene will coordinate with PBD to initiate proper clean-up and abatement activities.
	142	Aisleway leading to door restricted to less than 30”.	PBD to maintain proper aisle width.
	142	Ergonomic set-up for computer workstation is not adequate. Repeat item	Contact EH&S liaison (x6571) for ergonomic evaluation and possible workstation redesign.
	142	Access to an electrical sub panel at front door was blocked.	PBD to maintain clear access to electrical panels.
	142	Electrical disconnects (2) at back of room are blocked.	PBD to maintain clear access to electrical disconnects.
	250	Right-hand side door on flammable materials storage cabinet #9 is not self-closing.	PBD to submit a Work Request to make the door self-closing.
	250	Metal electrical box connected to extension cord running across cubicles is substandard.	PBD to make arrangements to upgrade to an approved installation.

Building	Room	Finding	Action
3	250	Ergonomic set-ups for computer workstations are not adequate. Repeat item	Contact EH&S liaison (x6571) for ergonomic evaluation and possible workstation redesign.
	250	An employee working with hazardous materials was observed wearing shorts in the lab.	Any individual working with hazardous materials in a lab must wear long pants. PBD will remind research staff through its Safety Committee of the safety implications and importance of adhering to this practice.
	250	Acids and bases stored together under sink (S-012-03-2-250S-C-S).	Acids and bases should be placed into separate secondary containment tubs under the sink.
	250	Refrigerator (F-011-03-2-250-CE-S) is not bolted to the floor for seismic safety purposes.	PBD to contact Facilities Work Request (x6274) to install proper restraints.
	250	Acetic acid is stored with oxidizing acids under sink (S-021-03-2-250H-E-S). The proper storage location for organic acids, such as acetic acid, is with flammables or alkalis.	PBD to separate these incompatibles.
	250	Ground Fault Circuit Interrupters (GFCIs) are not evident on hoods equipped with sinks.	PBD to submit a Work Request to Facilities to upgrade these circuits.
	308	The refrigerator is not posted to indicate that it is to be used for storage of chemicals – not for food.	PBD to label refrigerator as “Not for Food – For Chemicals Only”.
	308	Ergonomic set-up for computer workstations is not adequate. Repeat item	Contact EH&S liaison (x6571) for ergonomic evaluation and possible workstation redesign.
	308	File cabinet in room not seismically braced.	PBD to contact Facilities Work Request (x6274) to install proper restraints.
	314	Aisleway between cabinet and back counter restricted to less than 30”.	PBD to maintain proper aisle width.
	314	File cabinet in the back of room not secured.	PBD to contact Facilities Work Request (x6274) to install proper restraints.
	314	Ground Fault Circuit Interrupters (GFCIs) not present on cold room circuits.	PBD to make arrangements to install GFCIs.
	314	Ergonomic set-up for computer workstations is not adequate. Repeat item	Contact EH&S liaison (x6571) for ergonomic evaluation and possible workstation redesign.
	314	Temporary air diverter device covering vent above door is damaged.	PBD to submit a Work Request to evaluate the ventilation and install the proper air flow device.
	314	Cabinet unit on end of lab bench not seismically secured.	PBD to contact Facilities Work Request (x6274) to install proper restraints.
	316	Refrigerator seismic bracing has been disconnected.	PBD to contact Facilities Work Request (x6274) to install proper restraints.
	316	An environmental chamber situated on a bench top is not seismically secured.	PBD to contact Facilities Work Request (x6274) to install proper restraints.

Building	Room	Finding	Action
3	318	File cabinet near door not secured.	PBD to contact Facilities Work Request (x6274) to install proper restraints.
	318 (Outside)	Ground Fault Circuit Interrupters (GFCIs) to cold room located in hallway adjacent to 318 are not verified as being tested.	GFCIs need to be checked monthly.
	318 (Outside)	The electrical sub panel outside 318 has an open circuit breaker space.	PBD to submit a Work Request to add a blank.
	322	Breaker box can be accessed through disconnect portal.	PBD to submit a Work Request to remove screws at portal and install a blank-out piece.
	322	Cabinet needs to be seismically secured.	PBD to contact Facilities Work Request (x6274) to install proper restraints.
	322	Penetration holes (4) are present at top of ceiling in the front of the room that communicate with the hallway where a laser is present.	PBD to make arrangements to close off holes leading from the room to the hallway.
	322	Both laser tables not electrically grounded.	PBD to submit a Work Request to install the proper grounding.
	322	Ergonomic set-up for computer workstations is not adequate. Repeat item	Contact EH&S liaison (x6571) for ergonomic evaluation and possible workstation redesign.
	322	No pressure relief found on gas cylinders. Repeat item	PBD to determine the Maximum Allowable Working Pressure, and contact Berkeley Lab Facilities Department Regulator Shop, ext. 7669, to install a pressure relief device near the regulator.
	350	Ground Fault Circuit Interrupters (GFCIs) are not evident on hoods equipped with sinks.	PBD to make arrangements to upgrade these circuits.
	350	Improper labeling of waste containers inside Satellite Accumulation Area (SAA) under hood #2.	PBD to list contents on partially filled waste container, and remove label from waste container that is empty. Contact Dr. Maram Kassis (x6823) for assistance.
	350	Multiple unlabelled glass and plastic containers were noted.	PBD to ensure all chemical containers, including transfer containers (e.g., plastic squeeze bottles) are marked with chemical or product hazard identification information.
	350	Several file cabinets in middle of space tied together but not secured to the floor.	PBD to contact Facilities Work Request (x6274) to install proper restraints.
	350	Flammable chemicals, such as acetonitrile, stored in wooden cabinets.	PBD to remove all flammable materials and store in a flammable storage cabinet.

Building	Room	Finding	Action
3	350	Eyewash and safety shower in the center of the space is blocked by a cart.	PBD needs to ensure area underneath these units are clear from obstructions, and mark floor as a "Keep Clear" zone to maintain clearance.
	350	VWR refrigerator unit is not bolted down.	PBD to contact Facilities Work Request (x6274) to install proper restraints.
	350	Power supply for electrophoresis operation (N bench) is not current limited. Repeat item	PBD to utilize a current limited power supply.
	350	Employees handling hazardous materials were observed not wearing eye protection.	All individuals working with hazardous materials are to wear safety glasses with side shields. PBD will remind research staff through its Safety Committee of the safety implications and importance of adhering to this practice.
	350	Empty water and soft drink containers observed in the lab.	Individuals are to refrain from eating or drinking in lab areas where hazardous materials are handled. PBD will remind research staff through its Safety Committee of the safety implications and importance of adhering to this practice.
	350	A large box is obstructing the air flow in fume hood #5.	PBD to relocate the box to an area outside the hood or ensure that no hazardous materials are handled in this hood (and label as such).
	400 (Roof)	Various outdoor light fixtures have no cover protecting the light from damage.	PBD to make arrangements to install light covers.
	400 (Roof)	Vacuum pumps temporarily stored on the roof are not placed in secondary containment.	PBD to ensure that pumps are provided secondary containment in the event of an accidental release.
	400 (Roof)	North electrical sub panel is blocked.	PBD to provide access to electrical panel.
	400 (Roof)	Chemical containers in flammable liquid storage cabinets (#3, #4) not placed in secondary containment.	PBD to provide and use plastic tubs inside flammable storage cabinets to contain any free flowing liquids.
	400 (Roof)	Refrigerator unit temporarily stored on roof not seismically secured.	PBD to remove refrigerator or contact Facilities to install proper restraints.
	400 (Roof)	Chemicals stored outside (trichloroacetic acid).	PBD to relocate chemicals to a protected location (e.g., inside the building or in an approved storage cabinet).
	400 (Roof)	Access to safety switch panel for Compressor A#2 is blocked.	PBD to maintain access to safety switch panel.
	400 (Roof)	A junction box above AC 21 is open to the elements.	PBD to make arrangements to cover junction box.
	400 (roof)	Conductive debris and items found near live transformers near Compressor CA20.	PBD to remove conductive debris for around the transformer units.

Building	Room	Finding	Action
3	400 (Roof)	Biohazard container used improperly to collect oil.	PBD to find more suitable container for oil collection.
	400 (Roof)	Fire alarm junction box above stairwell is not covered.	PBD to make arrangements to have junction box covered.
	400 (Roof)	Gray cabinet in walkway behind 410 suite is not seismically secured.	PBD to remove file cabinet or contact Facilities to install proper restraints.